

**REMARKS**

**Status of the Claims**

Claims 1-66 are pending. Claims 1-3, 18, 25, 28, 38, 39, and 43-58 have been examined. Claims 4-17, 19-24, 26, 27, 29-37, 40-42, and 59-66 have been withdrawn from consideration as not reading on the elected invention. Claims 1, 57, and 58 have been amended to more particularly point out and distinctly claim that which the Applicants regard as their invention. In addition, claims 67-69 have been added to more particularly point out and distinctly claim that which the Applicants regard as their invention. The amendments to claims 1, 57, and 58 are not intended to narrow their scope. Support for these amendments can be found in the original disclosure. In addition, support for new claims 67-69 can be found in originally-filed claims 1, 57, and 58 respectively, as well as the original specification (See page 8, line 14). Accordingly no new matter is added by these amendments or new claims.

**Incorporation by Reference**

While stating that Applicants' incorporate by reference various publications, foreign patents and foreign applications, the Examiner contends that such incorporation is improper because "[t]he material is considered to be essential because it refers to embodiments of the invention rather than mere background." (Office Action, page 4, lines 1-5.) The Examiner has also requested that "Applicant is required to amend the disclosure to include the material incorporated by reference." (Office Action, page 4, lines 5-6.) As explained below, Applicants respectfully submit that the material incorporated by reference into Applicants' specification is properly incorporated.

The *Manual of Patent Examining Procedure* ("MPEP") defines "essential material" as "that which is necessary to (1) describe the claimed invention, (2) provide an enabling disclosure of the claimed invention, or (3) describe the best mode (35 U.S.C. 112)." MPEP § 608.01(p)(I)(A). The material incorporated by reference from the cited foreign documents is well known in the art and is generally cited merely to provide non-limiting examples of certain ingredients. The Examiner has not established that this material can be properly regarded as "essential material" as that term is defined in the MPEP. The MPEP further provides that "[a] patent need not teach, and preferably omits, what is well known in the art." MPEP. § 2164.01 (citation omitted). Applicants' specification complies with this mandate. Accordingly, Applicants submit that the material noted by the Examiner is properly incorporated by reference.

**Rejections Under 35 U.S.C. § 112, Second Paragraph**

Claims 1-3, 18, 25, 28, 38, 39, and 43-58 have been rejected under 35 U.S.C. § 112 for allegedly failing to particularly point out and distinctly claim that which Applicants regard as the invention. Applicants respectfully traverse these rejections in view of the reasons discussed below.

With respect to the definiteness of claim language requirement under 35 U.S.C. § 112, Applicants note that "[t]he essential inquiry pertaining to this requirement is whether the claims set out and circumscribe a particular subject matter with a **reasonable degree** of clarity and particularity." MPEP § 2173.02 (emphasis added). In other words, under Section 112, the focus is on "whether the claim meets the threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available." *Id.* The MPEP also states that:

Definiteness of claim language must be analyzed, not in a vacuum, but in light of:

- (A) The content of the particular application disclosure;
- (B) The teachings of the prior art; and
- (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.

*Id.* In view of these principles, Applicants respectfully submit that, for at least the reasons discussed below, the claims meet the requirements for clarity and precision under 35 U.S.C. § 112.

Claims 1, 57, and 58 have been rejected for allegedly “being unclear and vague due to the phrase ‘X’ is an anion chosen from anions derived from inorganic acids and anions derived from organic acids.” (Office Action, pages 4-5.) According to the Examiner “the metes and bounds of the limitation ‘derived from’ are unclear.” Applicants disagree with this rejection and respectfully submit that in the context of the claim, the terms “derived from” do not render the claim indefinite. According to the *McGraw-Hill Dictionary of Scientific and Technical Terms*, (4<sup>th</sup> ed. 1989), an acid is defined as “a compound capable of transferring a hydrogen ion in solution.” It is well known in the art that, as a result of this transfer, one is left with a negatively-charged ion, or anion. One of ordinary skill in the art would, therefore, have a clear appreciation of the claim terms “anions derived from inorganic and ... organic acids.” Accordingly, Applicants respectfully request withdrawal of this rejection.

Claims 1, 57, and 58 have also been rejected “due to the phrase ‘b) bis-secondary diamine residues such as piperazine derivatives.” (Office Action, page 5.)

~~The Examiner maintains that the term “derivatives” is unclear and vague and that the~~

phrase "such as" renders the claim indefinite. Applicants respectfully disagree with this rejection.

Without acquiescing to the rejection, Applicants note that claims 1, 57, and 58, as amended, do not contain the phrase "such as piperazine derivatives." Accordingly, the rejection of claims 1, 57, and 58 in view of this language should be withdrawn, as this rejection is now moot in view of Applicants' amendment.

Claims 1, 57, and 58 have also been rejected as allegedly being "confusing due to the phrase 'D is chosen from direct bonds.'" (Office Action, page 5.) Applicants respectfully traverse this rejection. In this regard, Applicants note that in Formula VII, D is indicated as being bonded between CO and NH. Consequently, one of ordinary skill in the art would understand that when D is chosen from direct bonds, CO and NH are directly bonded together. Accordingly, Applicants respectfully request withdrawal of this rejection.

Claims 1, 57, and 58 have also been rejected for allegedly "containing improper Markush groups due to the definition of R" which is defined by the phrase 'which may be identical or different, are each chosen from a hydrogen atom, and alkyl groups comprising from 1 to 18 carbon atoms.'" (Office Action, page 5.) According to the Examiner, "[t]he definition of R" is indefinite in the use of the term 'comprising' which renders the structure of R" ambiguous." *Id.* The Examiner also argues that "the definitions of R13, R14, R15, R16, A1, B1 are ambiguous due to the use of the term 'comprising.'" *Id.* Applicants respectfully traverse this rejection. In this regard, Applicants note that there is no requirement to use Markush-type language in claims. According to the MPEP:

Alternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of the scope or clarity of the claims. One acceptable form of alternative expression, which is commonly referred to as a Markush group, recites members as being "selected from the group consisting of A, B and C."

MPEP § 2173.05(h) (citations omitted). Here the MPEP clearly indicates that a Markush group is "[o]ne acceptable form of alternative expression," nowhere is it submitted that Markush-type language is the **only** acceptable language. Instead, the guiding principle is that "[a]lternative expressions are permitted if they present no uncertainty or ambiguity with respect to the scope or clarity of the claims." *Id.* Applicants respectfully submit that claims 1, 57, and 58 do not present any uncertainty or ambiguity simply because of their use of the word "comprising." The term "comprising" has a well-defined meaning in patent claims and is understood as being "inclusive or open-ended and does not exclude additional, unrecited elements or method steps." MPEP § 2111.03. Moreover, the use of the term "comprising" in the context of claims 1, 57, and 58 is unambiguous. For example, one of ordinary skill in the art would appreciate that "aliphatic groups comprising from 1 to 20 carbon atoms" can comprise from 1 to 20 carbon atoms as well as additional elements or constituents not expressly recited in the claim. For at least these reasons, Applicants respectfully request withdrawal of this rejection.

The Examiner has also rejected claim 18 for being allegedly "unclear and vague due to the phrase 'X<sup>-</sup> is an anion chosen from ... anions derived from organic acids.'" (Office Action, page 5.) For the reasons discussed above with respect to claims 1, 57, and 58, Applicants traverse this rejection and respectfully request its withdrawal.

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The Examiner has also rejected claim 18 for allegedly containing "improper Markush groups." (Office Action, page 6.) For the reasons discussed above with respect to claims 1, 57, and 58, Applicants traverse this rejection and respectfully request its withdrawal.

The Examiner has also rejected claim 18 for allegedly being "vague and unclear due to the term 'hydrocarbon-based radical.'" (Office Action, page 6). Applicants disagree with this rejection and respectfully submit that the term "hydrocarbon-based radical" does not render the claim indefinite.

The Office Action fails to provide any basis for concluding that one of ordinary skill in the art would be unable to ascertain the metes and bounds of claim 18. The term to which the Examiner objects is commonly used in the chemical arts. Since the Office Action has not provided reasons for concluding that the common, art-recognized term "hydrocarbon-based radical" is indefinite, Applicants respectfully submit the rejection is improper and should be withdrawn.

The Examiner has also rejected claims 28 and 38 for allegedly containing "improper Markush groups." (Office Action, page 6.) For the reasons discussed above with respect to claims 1, 57, and 58, Applicants traverse this rejection and respectfully request its withdrawal.

#### **Rejections Under 35 U.S.C. § 103**

Claims 1-3, 18, 25, 28, 38, 39, and 43-58 have been rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 4,954,335 to Janchipraponvej, in view of U.S. Patent No. 5,482,704 to Sweger et al. ("Sweger"), and U.S. Patent No. 6,210,689 to Martino et al. ("Martino"). According to the Examiner,

"Janchipraponvej teaches clear conditioning compositions and methods to impart improved properties to hair." (Office Action, page 7.) The Examiner further states that "[t]he compositions of Janchipraponvej contain quaternary ammonium compounds" and that "[b]ehenyltrimethylammonium chloride is specifically taught." *Id.* The Examiner acknowledges, however, that "[t]he reference lacks modified starch and anionic surfactants." *Id.*

Sweger, according to the Examiner, "teaches cosmetic compositions containing amino-multicarboxylate modified starch" including, in Example 1, "a starch modified with 2-chloroethylaminodipropionic acid." *Id.* Martino, according to the Examiner, "teaches the use of alkyl ether sulfate salts as well as know [sic] surfactants in cosmetic formulations." *Id.* at 7. According to the Examiner, "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the compositions of Janchipraponvej by the addition of amphoteric starches as taught by Sweger and anionic surfactants as taught by Martino in order to benefit from the improved results of the amphoteric starches with respect to viscosity and thickening as taught by Sweger." *Id.* at 8. Applicants respectfully traverse this rejection.

Applicants note that in order to make out a prima facie case of obviousness the Examiner bears the burden of establishing that: (1) there is a suggestion or motivation to modify reference teachings, (2) there is a reasonable expectation of success in such a combination, and (3) the prior art references, when combined, teach or suggest all claim limitations. Moreover, "[t]he teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure." MPEP § 2143 (citations omitted). Here, Applicants

maintain that the Examiner has not met this initial burden because at least two of these criteria have not been established.

Specifically, there is no motivation to modify the teachings of Janchipraponvej with the disclosure found in Sweger so as to obtain Applicants' claimed invention. Applicants' invention is directed to, *inter alia*, a "cosmetic composition, comprising in a cosmetically acceptable medium: a) at least one amphoteric starch ... and b) at least one cationic conditioner ... "(see Claim 1). Janchipraponvej, in contrast, is directed to "a clear, homogeneous composition comprising (a) a quaternary ammonium compound, (b) a volatile conditioning agent ... (c) an amidoamine compound ... (d) a solubilizing nonionic surfactant; and (e) a polyhydric compound." Janchipraponvej, col. 5, lines 40-64. Nowhere in Janchipraponvej is there any mention of amphoteric starches, let alone any teaching or suggestion that its disclosed compositions would be advantageously affected by the addition of amphoteric starches. Hence, for at least this reason, Janchipraponvej fails to teach or suggest Applicants' claimed cosmetic composition.

The disclosure of Sweger does not remedy the deficiencies of Janchipraponvej. Sweger is directed to "cosmetic compositions which contain amino-multicarboxylate starch derivatives." Sweger, col. 1, lines 34-35. Nowhere in Sweger is there any teaching or suggestion that its disclosed, modified starch compositions would be desirable additives to the compositions of Janchipraponvej.

In addition, Example II of Sweger does not support the Examiner's assertion that Sweger teaches that Cepa-starch is "superior to the Carbopol® standard." (Office Action, page 8). In that example, Sample A contained 2.0 wt% of Cepa-starch whereas Control 2, to which it was compared, contained only 0.5 wt% of Carbopol 940. Sweger,



col. 8, lines 1-34. Control 2 also contained a secondary emulsifier, which was absent in Sample A. *Id.* Hence, given the differences in concentration between Ceba-starch and Carbopol® in the compositions of Example II, as well as other differences in those compositions, Applicants respectfully submit that Sweger's conclusions regarding Ceba-starch and Carbopol® do not extend beyond the limited conditions of that example and certainly cannot be extrapolated to other compositions not even disclosed or suggested by Sweger.

Moreover, the prior art, if anything, teaches away from adding the compositions of Sweger to the Janchipraponvej composition. For example, Janchipraponvej describes his invention as, *inter alia*, a "**clear**, homogeneous composition." Janchipraponvej, col. 5, line 41 (emphasis added). In contrast, amino-multicarboxylate starch derivatives, such as those disclosed by Sweger, are taught as being useful in applications where **increased opacity** is a desired characteristic, such as in paper products. See, e.g., U.S. Patent No. 5,500,087 to Bernard et al., col. 5, lines 10-43. Hence, one of ordinary skill in the art would not be motivated to combine the teachings of Janchipraponvej with the disclosure of Sweger so as to obtain Applicants' claimed cosmetic composition.

The disclosure of Martino does not remedy the deficiencies noted in Janchipraponvej and Sweger. The mere fact that Martino teaches the use of alkyl ether sulfate salts as surfactants does not provide the motivation or reasonable expectation of success lacking in Janchipraponvej and Sweger for obtaining Applicants' claimed cosmetic composition. Accordingly, Applicants respectfully request that the rejection

under 35 U.S.C. § 103(a) over Janchipraponvej in view of Sweger and further in view of Martino be withdrawn.

In addition to the lack of motivation to modify or combine reference teachings in order to obtain Applicants' claimed cosmetic composition, the cited references fail to demonstrate a reasonable expectation of success for making such a combination. For example, as discussed above, Janchipraponvej discloses a clear, homogeneous composition comprising recited components (a) through (e). Janchipraponvej, col. 5, lines 40-64. Neither Janchipraponvej, nor any of the other cited references provide any direction or guidance which would allow one of ordinary skill in the art to successfully modify the Janchipraponvej composition so as to obtain Applicants' claimed invention. Thus, for this additional reason, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) over Janchipraponvej in view of Sweger and further in view of Martino be withdrawn.

In view of the foregoing remarks, Applicants respectfully request the reconsideration of this application and submit that all pending claims are in a condition for allowance.

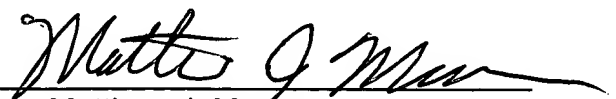
Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Dated: April 16, 2002

By:



Matthew J. Mason  
Reg. No. 44,904

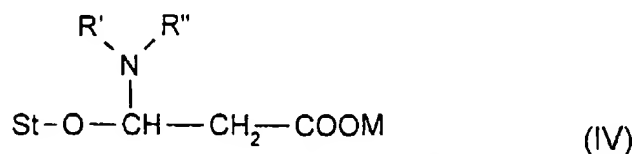
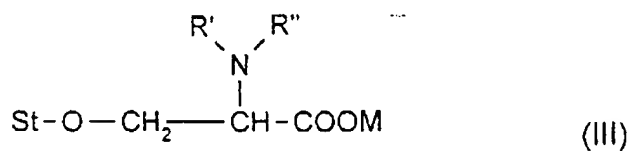
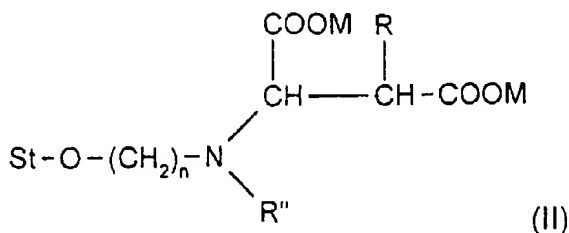
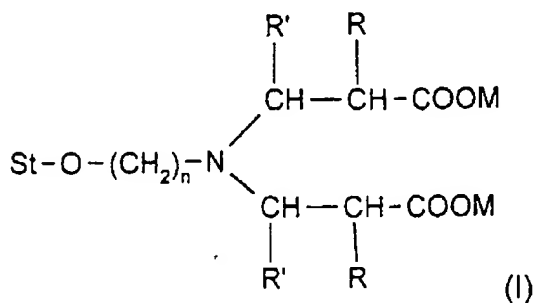
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# APPENDIX

In accordance with 37 C.F.R. §1.121(c), Applicants set forth claims 1, 57, and 58 in marked up form. Underlined text indicates additions to the claim, and [square brackets] enclose deletions.

1. A cosmetic composition, comprising in a cosmetically acceptable medium:
  - a) at least one amphoteric starch chosen from the compounds of formulae (I) to (IV):



wherein:

St-O is a starch moiety,

R, which may be identical or different, are each chosen from a hydrogen atom and a methyl group,

R', which may be identical or different, are each chosen from a hydrogen atom, a methyl group, and a -COOH group,

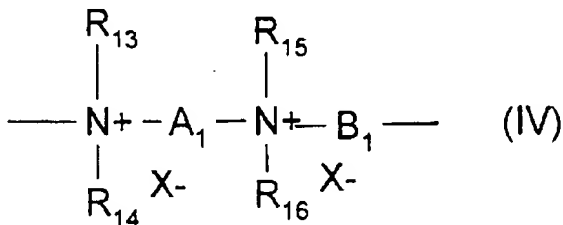
n is chosen from integers ranging from 2 to 3,

M, which may be identical or different, are each chosen from a hydrogen atom, an alkali metal, an alkaline-earth metal, NH<sub>4</sub>, quaternary ammonium compounds, and organic amines, and

R'', which may be identical or different, are each chosen from a hydrogen atom, and alkyl groups comprising from 1 to 18 carbon atoms; and

b) at least one cationic conditioner chosen from cationic silicones, quaternary ammonium salt surfactants, cyclopolymers of alkyldiallylamine, cyclopolymers of dialkyldiallylammonium, and polyquaternary ammonium polymers chosen from:

(1) diquaternary ammonium polymers comprising repeating units of formula (IV):



wherein:

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-  $R_{13}$ ,  $R_{14}$ ,  $R_{15}$  and  $R_{16}$ , which may be identical or different, are each chosen from aliphatic groups comprising from 1 to 20 carbon atoms, alicyclic groups comprising from 1 to 20 carbon atoms, arylaliphatic groups comprising from 1 to 20 carbon atoms, lower hydroxyalkylaliphatic groups, and, additionally,

at least two of said  $R_{13}$ ,  $R_{14}$ ,  $R_{15}$  and  $R_{16}$ , with the nitrogen atoms to which they are attached, form at least one heterocycle optionally comprising an additional heteroatom other than nitrogen, and, additionally,

$R_{13}$ ,  $R_{14}$ ,  $R_{15}$  and  $R_{16}$ , which may be identical or different, are each chosen from linear and branched  $C_1$ - $C_6$  alkyl groups substituted with at least one group chosen from nitrile groups, ester groups, acyl groups, amide groups and groups chosen from groups of formulae  $-CO-O-R_{17}-D$  and  $-CO-NH-R_{17}-D$  wherein  $R_{17}$  is chosen from alkylene groups and D is chosen from quaternary ammonium groups;

-  $A_1$  and  $B_1$ , which may be identical or different, are each chosen from polymethylene groups comprising from 2 to 20 carbon atoms, chosen from linear and branched, saturated and unsaturated polymethylene groups wherein said polymethylene groups may optionally comprise, optionally linked to and optionally intercalated in the main chain, at least one entity chosen from aromatic rings, oxygen atoms, sulfur atoms, sulfoxide groups, sulfone groups, disulfide groups, amino groups, alkylamino groups, hydroxyl groups, quaternary ammonium groups, ureido groups, amide groups and ester groups;

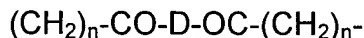
-  $X^-$  is an anion chosen from anions derived from inorganic acids and anions derived from organic acids; and

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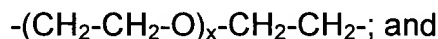
- A<sub>1</sub>, R<sub>13</sub> and R<sub>15</sub> may optionally form, together with the two nitrogen cations to which they are attached, at least one piperazine ring;

with the proviso that if A<sub>1</sub> is chosen from linear and branched, saturated and unsaturated alkylene groups and linear and branched, saturated and unsaturated hydroxyalkylene groups, B<sub>1</sub> may also be chosen from groups of formula:



wherein D is chosen from:

a) glycol residues of formula: -O-Z-O-, wherein Z is chosen from linear and branched hydrocarbon groups and groups chosen from groups of formulae:



wherein x and y, which may be identical or different, are each chosen from integers ranging from 1 to 4 (in which case x and y represent a defined and unique degree of polymerization) and any number ranging from 1 to 4 (in which case x and y represent an average degree of polymerization);

b) bis-secondary diamine residues [such as piperazine derivatives];

c) bis-primary diamine residues chosen from residues of formula:

-NH-Y-NH-, wherein Y is chosen from linear and branched hydrocarbon groups and residues of formula -CH<sub>2</sub>-CH<sub>2</sub>-S-S-CH<sub>2</sub>-CH<sub>2</sub>-; and

d) ureylene groups of formula: -NH-CO-NH-; and

(2) polyquaternary ammonium polymers comprising at least one unit of formula (VII):



wherein:

- R<sub>18</sub>, R<sub>19</sub>, R<sub>20</sub> and R<sub>21</sub>, which may be identical or different, are each chosen from a hydrogen atom, a methyl group, an ethyl group, a propyl group, a β-hydroxyethyl group, a β-hydroxypropyl group, and a -CH<sub>2</sub>CH<sub>2</sub>(OCH<sub>2</sub>CH<sub>2</sub>)<sub>p</sub>OH group, wherein p is an integer ranging from 0 to 6;

with the proviso that R<sub>18</sub>, R<sub>19</sub>, R<sub>20</sub> and R<sub>21</sub> are all not simultaneously hydrogen atoms;

- r and s, which may be identical or different, are each chosen from integers ranging from 1 to 6;

- q is an integer ranging from 1 to 34;

- $X^-$  is chosen from anions of inorganic and organic acids,

- D is chosen from direct bonds and  $-(CH_2)_t-CO-$  groups wherein t is 4 or 7; and

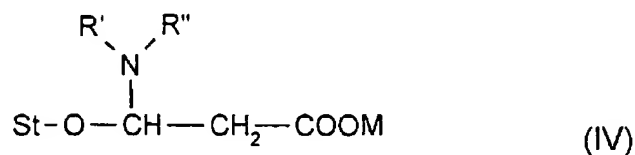
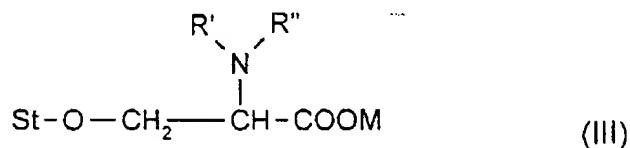
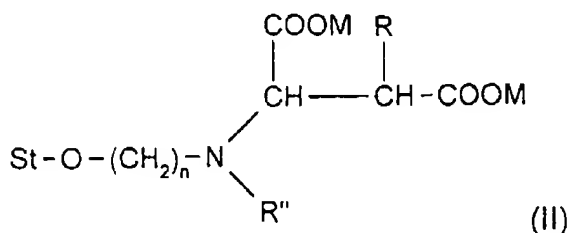
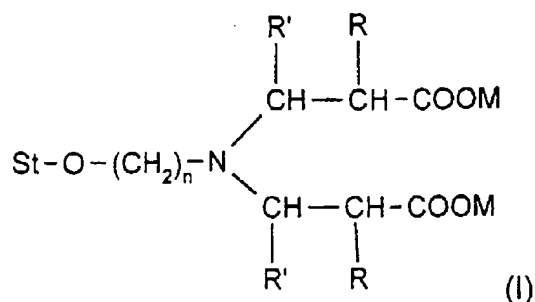
- A is chosen from dihalide groups and a group of formula

$$-\text{CH}_2-\text{CH}_2-\text{O}-\text{CH}_2-\text{CH}_2-$$

57. A shampoo, a rinse-out conditioner, a leave-in conditioner, a hair permanent-waving composition, a hair straightening composition, a hair dyeing composition, a hair bleaching composition, a rinse-out composition to be applied between steps of a permanent-waving operation, a rinse-out composition to be applied

between steps of a hair-straightening operation, comprising, in a cosmetically acceptable medium:

a) at least one amphoteric starch chosen from the compounds of formulae (I) to (IV):



wherein:

St-O is a starch moiety,



R, which may be identical or different, are each chosen from a hydrogen atom and a methyl group,

R', which may be identical or different, are each chosen from a hydrogen atom, a methyl group, and a -COOH group,

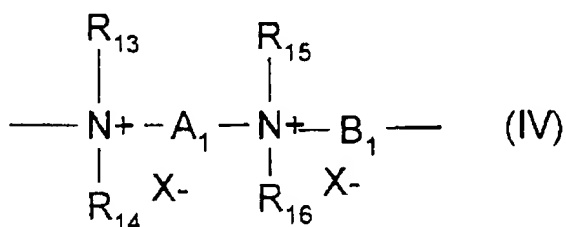
n is chosen from integers ranging from 2 to 3,

M, which may be identical or different, are each chosen from a hydrogen atom, an alkali metal, an alkaline-earth metal, NH<sub>4</sub>, quaternary ammonium compounds, and organic amines, and

R'', which may be identical or different, are each chosen from a hydrogen atom, and alkyl groups comprising from 1 to 18 carbon atoms; and

b) at least one cationic conditioner chosen from cationic silicones, quaternary ammonium salt surfactants, cyclopolymers of alkyldiallylamine, cyclopolymers of dialkyldiallylammonium, and polyquaternary ammonium polymers chosen from:

(1) diquaternary ammonium polymers comprising repeating units of formula (IV):



wherein:

- R<sub>13</sub>, R<sub>14</sub>, R<sub>15</sub> and R<sub>16</sub>, which may be identical or different, are each chosen from aliphatic groups comprising from 1 to 20 carbon atoms, alicyclic groups comprising from

1 to 20 carbon atoms, arylaliphatic groups comprising from 1 to 20 carbon atoms, lower hydroxyalkylaliphatic groups, and, additionally,

at least two of said  $R_{13}$ ,  $R_{14}$ ,  $R_{15}$  and  $R_{16}$ , with the nitrogen atoms to which they are attached, form at least one heterocycle optionally comprising an additional heteroatom other than nitrogen, and, additionally,

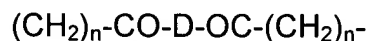
$R_{13}$ ,  $R_{14}$ ,  $R_{15}$  and  $R_{16}$ , which may be identical or different, are each chosen from linear and branched  $C_1$ - $C_6$  alkyl groups substituted with at least one group chosen from nitrile groups, ester groups, acyl groups, amide groups and groups chosen from groups of formulae  $-CO-O-R_{17}-D$  and  $-CO-NH-R_{17}-D$  wherein  $R_{17}$  is chosen from alkylene groups and D is chosen from quaternary ammonium groups;

-  $A_1$  and  $B_1$ , which may be identical or different, are each chosen from polymethylene groups comprising from 2 to 20 carbon atoms, chosen from linear and branched, saturated and unsaturated polymethylene groups wherein said polymethylene groups may optionally comprise, optionally linked to and optionally intercalated in the main chain, at least one entity chosen from aromatic rings, oxygen atoms, sulfur atoms, sulfoxide groups, sulfone groups, disulfide groups, amino groups, alkylamino groups, hydroxyl groups, quaternary ammonium groups, ureido groups, amide groups and ester groups;

-  $X^-$  is an anion chosen from anions derived from inorganic acids and anions derived from organic acids; and

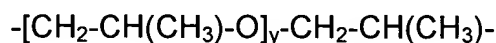
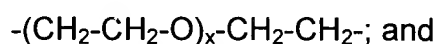
-  $A_1$ ,  $R_{13}$  and  $R_{15}$  may optionally form, together with the two nitrogen cations to which they are attached, at least one piperazine ring;

with the proviso that if  $A_1$  is chosen from linear and branched, saturated and unsaturated alkylene groups and linear and branched, saturated and unsaturated hydroxyalkylene groups,  $B_1$  may also be chosen from groups of formula:



wherein D is chosen from:

a) glycol residues of formula:  $-O-Z-O-$ , wherein Z is chosen from linear and branched hydrocarbon groups and groups chosen from groups of formulae:



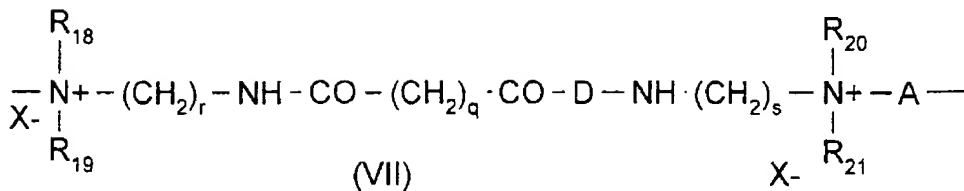
wherein x and y, which may be identical or different, are each chosen from integers ranging from 1 to 4 (in which case x and y represent a defined and unique degree of polymerization) and any number ranging from 1 to 4 (in which case x and y represent an average degree of polymerization);

b) bis-secondary diamine residues [such as piperazine derivatives];

c) bis-primary diamine residues chosen from residues of formula:  $-NH-Y-NH-$ , wherein Y is chosen from linear and branched hydrocarbon groups and residues of formula  $-CH_2-CH_2-S-S-CH_2-CH_2-$ ; and

d) ureylene groups of formula:  $-NH-CO-NH-$ ; and

(2) polyquaternary ammonium polymers comprising at least one unit of formula (VII):



wherein:

- R<sub>18</sub>, R<sub>19</sub>, R<sub>20</sub> and R<sub>21</sub>, which may be identical or different, are each chosen from a hydrogen atom, a methyl group, an ethyl group, a propyl group, a β-hydroxyethyl group, a β-hydroxypropyl group, and a -CH<sub>2</sub>CH<sub>2</sub>(OCH<sub>2</sub>CH<sub>2</sub>)<sub>p</sub>OH group, wherein p is an integer ranging from 0 to 6;

with the proviso that R<sub>18</sub>, R<sub>19</sub>, R<sub>20</sub> and R<sub>21</sub> are all not simultaneously hydrogen atoms;

- r and s, which may be identical or different, are each chosen from integers ranging from 1 to 6;

- q is an integer ranging from 1 to 34;

- $X^-$  is chosen from anions of inorganic and organic acids,

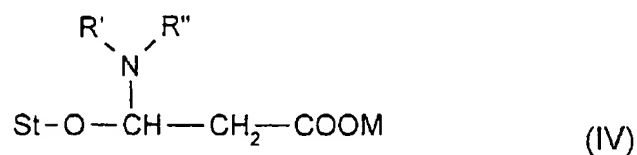
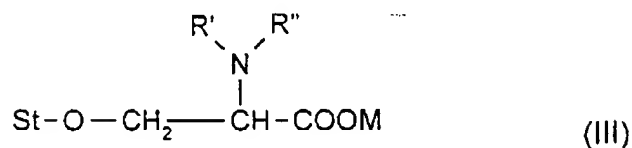
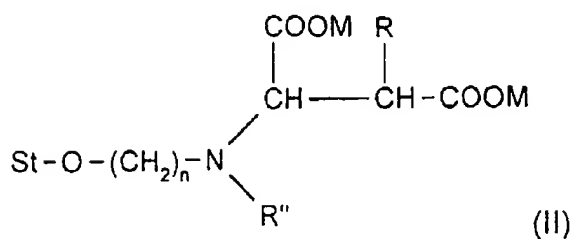
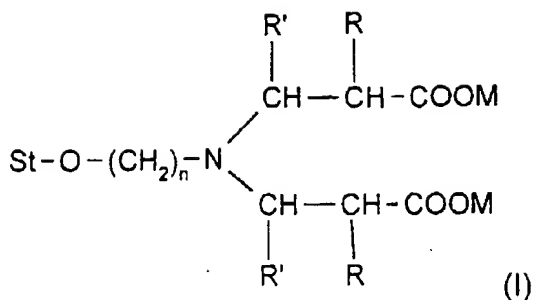
- D is chosen from direct bonds and  $-(CH_2)_t-CO-$  groups wherein t is 4 or 7; and

- A is chosen from dihalide groups and a group of formula

$$-\text{CH}_2-\text{CH}_2-\text{O}-\text{CH}_2-\text{CH}_2-$$

58. A shower gel, a bubble bath or a make-up-removing product comprising, in a cosmetically acceptable medium:

a) at least one amphoteric starch chosen from the compounds of formulae (I) to (IV):



wherein:

St-O is a starch moiety,

R, which may be identical or different, are each chosen from a hydrogen atom and a methyl group,

R', which may be identical or different, are each chosen from a hydrogen atom, a methyl group, and a -COOH group,

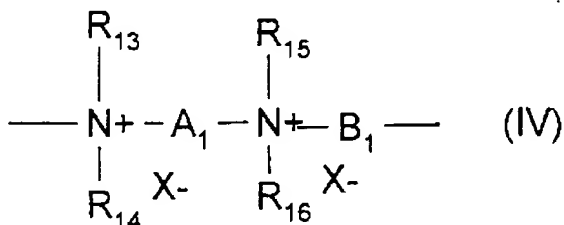
n is chosen from integers ranging from 2 to 3,

M, which may be identical or different, are each chosen from a hydrogen atom, an alkali metal, an alkaline-earth metal, NH<sub>4</sub>, quaternary ammonium compounds, and organic amines, and

R'', which may be identical or different, are each chosen from a hydrogen atom, and alkyl groups comprising from 1 to 18 carbon atoms; and

b) at least one cationic conditioner chosen from cationic silicones, quaternary ammonium salt surfactants, cyclopolymers of alkyldiallylamine, cyclopolymers of dialkyldiallylammonium, and polyquaternary ammonium polymers chosen from:

(1) . . . diquaternary ammonium polymers comprising repeating units of formula (IV):



wherein:

- R<sub>13</sub>, R<sub>14</sub>, R<sub>15</sub> and R<sub>16</sub>, which may be identical or different, are each chosen from aliphatic groups comprising from 1 to 20 carbon atoms, alicyclic groups comprising from 1 to 20 carbon atoms, arylaliphatic groups comprising from 1 to 20 carbon atoms, lower hydroxyalkylaliphatic groups, and, additionally,

at least two of said R<sub>13</sub>, R<sub>14</sub>, R<sub>15</sub> and R<sub>16</sub>, with the nitrogen atoms to which they are attached, form at least one heterocycle optionally comprising an additional heteroatom other than nitrogen, and, additionally,

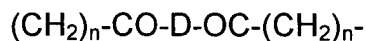
$R_{13}$ ,  $R_{14}$ ,  $R_{15}$  and  $R_{16}$ , which may be identical or different, are each chosen from linear and branched  $C_1$ - $C_6$  alkyl groups substituted with at least one group chosen from nitrile groups, ester groups, acyl groups, amide groups and groups chosen from groups of formulae  $-CO-O-R_{17}-D$  and  $-CO-NH-R_{17}-D$  wherein  $R_{17}$  is chosen from alkylene groups and D is chosen from quaternary ammonium groups;

-  $A_1$  and  $B_1$ , which may be identical or different, are each chosen from polymethylene groups comprising from 2 to 20 carbon atoms, chosen from linear and branched, saturated and unsaturated polymethylene groups wherein said polymethylene groups may optionally comprise, optionally linked to and optionally intercalated in the main chain, at least one entity chosen from aromatic rings, oxygen atoms, sulfur atoms, sulfoxide groups, sulfone groups, disulfide groups, amino groups, alkylamino groups, hydroxyl groups, quaternary ammonium groups, ureido groups, amide groups and ester groups;

-  $X^-$  is an anion chosen from anions derived from inorganic acids and anions derived from organic acids; and

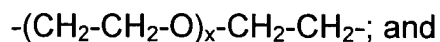
-  $A_1$ ,  $R_{13}$  and  $R_{15}$  may optionally form, together with the two nitrogen cations to which they are attached, at least one piperazine ring;

with the proviso that if  $A_1$  is chosen from linear and branched, saturated and unsaturated alkylene groups and linear and branched, saturated and unsaturated hydroxyalkylene groups,  $B_1$  may also be chosen from groups of formula:



wherein D is chosen from:

a) glycol residues of formula:  $-O-Z-O-$ , wherein Z is chosen from linear and branched hydrocarbon groups and groups chosen from groups of formulae:



wherein x and y, which may be identical or different, are each chosen from integers ranging from 1 to 4 (in which case x and y represent a defined and unique degree of polymerization) and any number ranging from 1 to 4 (in which case x and y represent an average degree of polymerization);

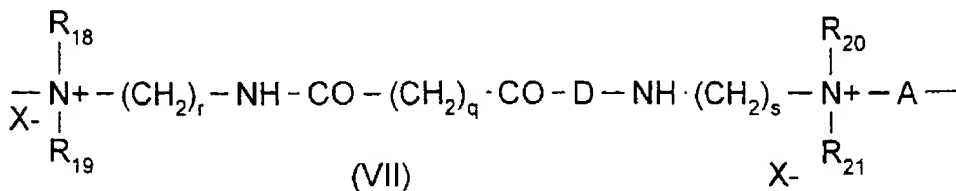
b) bis-secondary diamine residues [such as piperazine derivatives];

c) bis-primary diamine residues chosen from residues of formula:

$-NH-Y-NH-$ , wherein Y is chosen from linear and branched hydrocarbon groups and residues of formula  $-CH_2-CH_2-S-S-CH_2-CH_2-$ ; and

d) ureylene groups of formula:  $-NH-CO-NH-$ ; and

(2) polyquaternary ammonium polymers comprising at least one unit of formula (VII):



wherein:

-  $R_{18}$ ,  $R_{19}$ ,  $R_{20}$  and  $R_{21}$ , which may be identical or different, are each chosen from

a hydrogen atom, a methyl group, an ethyl group, a propyl group, a  $\beta$ -hydroxyethyl



group, a  $\beta$ -hydroxypropyl group, and a  $-\text{CH}_2\text{CH}_2(\text{OCH}_2\text{CH}_2)_p\text{OH}$  group, wherein p is an integer ranging from 0 to 6;

with the proviso that  $R_{18}$ ,  $R_{19}$ ,  $R_{20}$  and  $R_{21}$  are all not simultaneously hydrogen atoms;

- r and s, which may be identical or different, are each chosen from integers ranging from 1 to 6;

- q is an integer ranging from 1 to 34;

-  $X^-$  is chosen from anions of inorganic and organic acids,

- D is chosen from direct bonds and  $-(\text{CH}_2)_t\text{-CO-}$  groups wherein t is 4 or 7; and

- A is chosen from dihalide groups and a group of formula

$-\text{CH}_2\text{-CH}_2\text{-O-CH}_2\text{-CH}_2-$ .